

the haemorrhage. If the patient is in a low-risk group, or a risk factor such as immobilization in bed has been removed, haemorrhage would provide a useful opportunity to cease therapy with a drug which is not needed in any case.

The practice of tapering off anticoagulant doses is questionable on other grounds. Warfarin has a half-life of two to three days in man, so that sudden cessation of dosage does not mean sudden cessation of therapeutic effect. However, the relationship between dose of warfarin and anticoagulant effect is steep: a dose which is half or less of a previously effective dose may have little effect. Tapering off the dose appears to be illogical and unnecessary.

<sup>1</sup> Sisc, H. S., Moschos, C. B., Gauthier, J., and Becker, R., *Circulation*, 1961, **24**, 1137.

<sup>2</sup> Keyes, J. W., Drake, E. H., and Smith, F. J., *Circulation*, 1956, **14**, 254.

<sup>3</sup> Carter, S. A., McDevitt, E., Gatje, B. W., and Wright, I. S., *American Journal of Medicine*, 1958, **25**, 43.

<sup>4</sup> Michaels, L., *Journal of the American Medical Association*, 1971, **215**, 595.

## Adrenaline into Melanin

Patients suffering from glaucoma simplex are commonly treated with topical adrenaline in strong concentration provided their eyes have wide chamber angles and are in no danger of developing angle closure as a result of mild mydriasis. A side effect of the treatment is the appearance of discrete, black, round patches about the size of a pinhead on the conjunctiva, particularly of the lower lid and lower fornix. Pigmentation takes place during the first 16 months of therapy and has been reported to affect 44% of cases.<sup>1</sup> The correlation between the topical administration of adrenaline compounds and pigmented conjunctival deposits was first reported by A. Löwenstein in 1927.<sup>2</sup> Microscopical studies<sup>3,4</sup> show that these deposits consist of melanin. This is produced by the oxidation of adrenaline after it has entered pre-existing conjunctival pockets or cysts. The material is acellular.

Melanin is the generic name for a group of widely distributed naturally occurring substances responsible for the varying shades of brown-black pigmentation found in plants and animals. It consists of pigments of high molecular weight derived from the oxidation of phenols. Adrenaline is a phenol which under the influence of phenol oxidases is oxidized to the unstable substance adrenochrome and finally produces melanin.<sup>5</sup>

The patient may notice the black spots, or the physician may mistake them for a conjunctival melanoma, or irritation in the eye may draw attention to them, when they may be mistaken for foreign bodies and attempts made to remove them. Jet-black punctate pigmentation of the conjunctiva should always lead the observer to exclude topical adrenaline as a cause. They are not in any way related to neoplasms of the conjunctiva nor are they a contraindication to a continuation of adrenaline therapy.<sup>6</sup> Fortunately they are not disfiguring, as they tend to be hidden by the lids, and their discovery by the careful examiner is something of an anticlimax in that they are entirely benign as well as symptomless, calling for no treatment.

<sup>1</sup> Mooney, D., *British Journal of Ophthalmology*, 1970, **54**, 823.

<sup>2</sup> Löwenstein, A., *Berichte der Deutschen Ophthalmologischen Gesellschaft*, 1927, **46**, 439.

<sup>3</sup> Bietti, G., *Bollettino d'Oculistica*, 1938, **17**, 65.

<sup>4</sup> Corwin, M. E., and Spencer, W. H., *Archives of Ophthalmology*, 1963, **69**, 317.

<sup>5</sup> Ferry, A. P., and Zimmerman, L. E., *American Journal of Ophthalmology*, 1964, **58**, 205.

<sup>6</sup> Spiers, F., and Eldrup-Jorgensen, P., *Transactions of the Ophthalmological Societies of the United Kingdom*, 1966, **86**, 255.

## Swollen Figures

For over 10 years the average mortality of males in England and Wales has shown no improvement. In fact it has got slightly worse. The standardized ratio in 1960 was 92% of the baseline figure for 1950-2, while in 1969 it had gone up to 94. Females fare rather better, the average death rate (standardized) declining over the decade from 87 to 84% of the 1950-2 rate. The same disparity between the sexes is to be seen in Scotland, but there the rate for males did also fall somewhat.

The detailed mortality statistics for 1969 have recently appeared from the Registrars General for England and Wales and for Scotland.<sup>1,2</sup> Both volumes provide an identical table by which valid comparisons can be made between the death rates for certain diseases in the three parts severally of the United Kingdom and the Irish Republic. We learn from the figures that for all deaths the standardized mortality ratio for males was lowest in the Irish Republic in 1969, followed by England and Wales, then Northern Ireland, and finally Scotland. But for females England and Wales had the best figure and the Irish Republic the worst, with Northern Ireland and Scotland in between.

Lung cancer was a much commoner cause of death in England and Wales and Scotland than in either part of Ireland, but the reverse is true of respiratory tuberculosis. The well-known rarity of suicide as a recorded cause of death in the Irish Republic is shown by its mortality ratio of 28 for men and 17 for women compared with 105 and 106 in England and Wales. Scotland had a surprising death rate from meningococcal infection: among males the mortality ratio was 214, compared with 93 in England and Wales and much lower figures still in Ireland. Rheumatic fever was a far more prevalent cause of death in both parts of Ireland than in England and Wales and Scotland.

These volumes are indispensable sources of information on causes of death. But unfortunately they have caught the inflationary disease of our times. The one for England and Wales costs over three times what its predecessor did in 1960 and the one for Scotland (with some changes in scope) two and a half times. Both are three or four times as bulky and the amount of blank space in and around their tables has multiplied by at least as much. If computerization can give us neither economy of cost in our budgets nor economy of space in our libraries, we may look for greater accuracy. Yet in vain. The England and Wales volume offers eight pages of corrections to last year's report, the Scottish volume a sheet of corrections for its own pages. Nor do we even get speed in England and Wales, for its report appears at a longer interval (16½ months) after the year to which it refers than did the 1960 volume (13 months). Scotland may be congratulated on showing some improvement in this respect. But a re-examination of the type of statistics these reports provide and the means allotted to producing them might be as helpful to the Registrars General as to their readers.

<sup>1</sup> *The Registrar General's Statistical Review of England and Wales*, 1969, Part 1—Tables. Medical. London, H.M.S.O., 1971.

<sup>2</sup> *Annual Report of the Registrar General for Scotland 1969*, Part 1—Mortality Statistics, No. 115. Edinburgh, H.M.S.O., 1971.